



Growing Green



December 2013

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Mission Statement

The mission of the Leon County Office of Sustainability is to promote adoption of practices that improve our quality of life, protect our natural environment, and strengthen our economy, both within County government and within the community at large.

Message from the County Administrator

This issue of the Growing Green newsletter brings you news about several of this year's sustainability highlights for Leon County. Our County Highlight describes how cutting-edge technology and good design at the new Public Safety Complex allow this outstanding facility to meet strict green building criteria at the same time as satisfying tough standards for security and storm-worthiness. The PSC exemplifies the County's latest achievement in its continuing efforts to follow sustainable building practices. Our commitment to these practices results in long-term financial savings while also conserving resources.

Our Community Highlight features the Community Carbon Fund (CCF), a community project in which Leon County is a supporting partner. The CCF was honored as a "Champion of Hope" this fall by the Big Bend Homeless Coalition for helping our neighbors in need while reducing our community's carbon footprint. Leon County is proud to work with community partners on projects such as these that make our community a stronger and greener place. Read on to find out how you can get involved too. Best wishes for a joyful holiday season.

Sincerely,

Vincent S. Long

Leon County Administrator



County Highlight: The Public Safety Complex, A Very "Chill" Building

The brand new Public Safety Complex (PSC), located near Tom Brown Park at 911 Easterwood Drive, could be called the "Green Fortress," as it is one of the safest and greenest buildings in the County. Through the County's commitment and the dedication of numerous partners, this state-of-the-art facility opened on time and under budget. Under its roof, about 150 employees now routinely answer 911 calls, dispatch fire fighters and emergency medical services teams, and monitor traffic along I-10 and signalized intersections across town. Under emergency conditions, the Leon County Emergency Operations Center (EOC) will come to life and the facility will accommodate up to 400 people.

(Continued on page 2).



The Public Safety Building facade, in all its sustainable glory.

As employees go about performing their vital public safety functions, they are doing so in a building that is strong enough to withstand an F4 tornado and green enough to be certified Silver under the US Green Building Council's Leadership In Energy and Environmental Design (LEED) program. LEED Gold was not attainable because some sacrifices had to be made to meet the primary purposes of the building. For example, the facility does not have expansive windows because it is a tornado shelter.

Cool Hidden Components

Some of the "coolest" (and greenest) parts of the facility aren't outwardly visible. The cooling system is a geothermal system that pulls water from the underground aquifer at a steady year-round temperature of 70 degrees F. High-efficiency chillers then cool a water loop, which is circulated through the building within 'chilled beams' in the ceiling. Air is passed over the chilled beam's water coil to cool the rooms. The water absorbs heat from the building, and is returned to the aquifer at a slightly higher temperature. This system is predicted to reduce energy requirements by 28 percent compared to other systems.



Cross-section of a chilled beam. Air that has been cooled sinks while warm air rises to be cooled by enclosed water-filled coils.

Chilled water is also employed to cool computer equipment in the data center. The equipment is housed in back-to-back racks with the space between enclosed. Air from the enclosed area moves through an in-row cooling unit and then through to the equipment. This eliminates the mixing of hot and cool air, resulting in higher efficiency.

The building is extremely well-insulated, with 22-inch thick walls built of Insulated Concrete Forms (ICFs). ICF structures consist of insulating foam exteriors filled with 12" of steel-reinforced concrete. On the outer layer of the wall, there is also a moisture membrane, an air space, and brick. Because of the size of the facility, the insulation, and the number of people who will be working in the building, it is anticipated that little, if any, heating will be needed in the winter.

A Green and Flexible Interior Design

To complement the low energy needs for cooling, the PSC also has reduced its lighting to the lowest light level of any commercial building in Tallahassee, at just .6 watts per square foot, versus a typical .9 to 1.0 watts per square foot. Low light levels in general areas are supplemented by adjustable task lighting.

Most lighting is activated by motion sensors, even the desktop equipment, eliminating human error in leaving a computer monitor or lights on all night. In addition, most all of the lights in the complex are LED (light-emitting diodes), which are more energy-efficient than incandescent bulbs or fluorescent lamps.



The open arena style allows for a cohesive feeling among employees. Highly-efficient LED fixtures provide illumination.

The interior design was created to be redesigned over and over, so that the building remains relevant for a long time. Power and data systems are installed under a raised floor, so that they can be reconfigured. Walls are modular and clip into the ceilings, making it easy to reorganize space without the disruption and waste of construction.



Natural light is used wherever possible. Low cubicle heights allow light to shine and encourages employee collaboration.

This project was also good for local economic sustainability, as the furnishings were sourced locally. A whopping 86 percent of the construction cost that went into this project went back to the community! All of the design and commissioning services necessary for the project were provided by local professionals as well.

All in all, the building reflects the County's commitment to being as strong and green as possible while serving the public during times of greatest need.

-Contributed by Kelli Thurson

Community Highlight: Local Carbon Fund Helps Neighbors While Reducing Emissions

Did you know that our community has an award-winning local, voluntary solution for offsetting damaging carbon emissions that are key drivers of climate change? We do, and it's called the Community Carbon Fund (CCF). This effort is supported by people and organizations—including Leon County—in order to pay for energy conservation improvements at local social service agencies. Thanks to local support, the CCF has funded and carried out energy improvements at eight area social service agencies since its inception.

Those improvements paid for with CCF funds have reduced utility use enough to prevent 74 metric tons of carbon dioxide from entering the atmosphere. In addition, the improvements are expected to render savings of more than \$16,000 annually to the organizations, allowing them to re-direct more funds to services. Meanwhile, the projects have provided work to local contractors who carried out improvements.



Programmable thermostats at the Hope Community are saving energy and dollars.

This small but growing program is the embodiment of sustainability because it links concerns for helping people in need (the social pillar of sustainability) with protecting our local and global environment (the environmental pillar), while also creating local work (the economic pillar). The CCF was named a "Champion of Hope" for its work at the Big Bend Homeless Coalition, where projects are expected to save \$10,000 annually. In addition to funding energy-saving improvements, the CCF also funds tree planting. Trees absorb carbon dioxide in the process of photosynthesis, thus acting as a natural carbon sink (See our briefs about the upcoming Arbor Day planting).

Each of us creates a daily "carbon footprint" based on how much fossil fuel we use throughout our day, including in our travels. For example, burning one gallon of gasoline creates 19.4 pounds of carbon dioxide! (click [here](#) for more about the science of carbon).



Pastor Amanda Nickles points out a new water heater at Grace Mission Episcopal Church.



Thanks to CCF, area organizations can spend more on direct services.

Scientific evidence shows that carbon compounds, along with other greenhouse gas emissions, are altering our planet's climate with harmful effects including rising sea levels, increased heat waves, and damage to coral reefs. We can all reduce our carbon footprint in various ways, such as by changing our thermostat settings and by driving less (click [here](#) for what you can do).

The CCF offers a way to account for our remaining carbon footprint. After finding out how much carbon we generate in a year, the CCF calculator multiplies that by a dollar amount (\$14 per ton) based on the going rate for similar carbon "offset" funds. Carbon offsets are a tool used by people worldwide who make up for the carbon they generate by helping pay for projects that either cut back on carbon or that fund planting of trees that take in carbon dioxide to grow. How much carbon do we generate? The CCF has calculated that an average Tallahassee family generates a total of 13.42 metric tons of carbon dioxide each year from utility use in the home and from transportation. Offsetting that amount with a \$14 per ton charge amounts to an annual payment of \$187 for a family to offset.



CCF funded an energy-saving HVAC unit at the Boys and Girls Club.

So, while we are all part of the climate change problem, we can also become part of the climate change solution by contributing to the CCF. Visit the CCF page on the Sustainable Tallahassee website [here](#) to calculate your footprint or to make a simple donation that is tax-deductible.



**What's your carbon footprint?
Click on the icon to go to the
calculator and find out!**

How much carbon dioxide can a tree absorb?

A fast-growing hardwood such as an elm can take up 4 pounds yearly, where a bald cypress sequesters about half that amount, according to the U.S. Department of Energy. Find out more by clicking [here](#).

EVENTS AND PROGRAMS

January 16 & February 8 Planning Your Spring Food Garden

Would you like pointers on how to plan your spring garden, including hearing from seasoned gardeners about what plants make the best choices for our area? Join us for a free program from experienced Master Gardeners Ed Schroeder and Tom Batey. Gardeners are invited to bring photos of their gardens to share. There will be plenty of time for questions and answers in this program, which is part of the quarterly Sustainable Leon County series, "Community Matters." Light refreshments are provided, and advance registration is not required.

The same program will be offered twice:

- **Thursday, January 16,** from 6-7:30 pm at the Eastside Branch Library, 1583 Pedrick Road
- **Saturday, February 8,** from 11am - 12:30pm, at Lake Jackson Community Center, 3840 N. Monroe Street

For more information, contact Kathryn Ziewitz at 606-5383 or email Sustainability@LeonCountyFl.gov.



Learn how to grow luscious tomatoes in your spring food garden.

January 17 Permaculture Design Course

Bring dreams of eco-cultural resilience to fruition through Leon County Extension's Permaculture course, being offered for the third year. The course is a group journey of re-tooling our family and community living for food and energy security and for healthier, happier, lives. This year's class will meet on Fridays 8:45 AM - 4:15 PM, beginning January 17th. Class sessions include a mixture of instruction, field work, and discussion. A central focus is development of each student's personal permaculture design plan, with group and instructor advice. To register, write Leon County Extension Agent and principal course instructor Will Sheftall at SheftallW@LeonCountyFL.gov. The course is limited to 26 students, and the fee is \$245.



Leon County Extension Agent and course instructor Will Sheftall out in the field with last year's Permaculture class.

January 25 Arbor Day Planting at J.R. Alford Greenway

This year's Arbor Day planting will be Saturday, January 25, at the J.R. Alford Greenway, 2500 S. Pedrick Rd. The planting will be on a grand scale — 110 live oaks will be planted in a colonnade at the central trail leading into this beautiful greenway. Sustainable Tallahassee's Community Carbon Fund (CCF) is providing the trees, which will serve to remove carbon from the atmosphere while also adding beauty and shade to the park. The effort is a joint Leon County/City of Tallahassee project.

Residents are invited to help plant the oaks, starting at 9 am. Bring shovels, gloves, and drinking water. For more information, contact Tom Jackson at Leon County Division of Operations at 606-1417.



Leon County residents helped plant trees at Lafayette Park in honor of Arbor Day 2013.

February 18 & 25 Deciduous Tree Identification

Leon County Extension is offering classes on identification of deciduous trees in winter, with the February 18 class focused on identification by twig and bud and the February 25 class focused on telling trees apart based on bark and the tree's form. For details and to register, click [here](#). Register early; these classes always fill up.



Learn to identify native deciduous trees such as the Southern crabapple.

Did You Know?

If you in unincorporated Leon County you may qualify to have a Basswood planted on your property for free. The Basswood, or American linden, is a rare native tree that is occasionally found in rich hardwood forests like Wakulla Springs or Torreya State park. You can identify a Basswood by its upright oval canopy and tall, straight trunk. The tree's large heart-shaped leaves are dark green throughout the year, turning yellow just before dropping in the fall. Bees are especially attracted to its light yellow flowers, and small grey nuts from the Basswood are eaten by wildlife. If you agree to water the tree three times a week for one year, Leon County Public Works will plant one in your front yard. Apply online at www.LeonCountyFl.gov/AdoptATree by Friday, January 31, 2014, and place a wooden stake at the desired location. The Basswood will grow well in full sun or partial shade.



The Basswood can be grown as a specimen tree or a shade tree.

Nature's Calendar

December and January

- ▶ Watch for waterfowl on wetlands, lakes, and prairies.
- ▶ Listen for the hoots of Great horned and barred owls.
- ▶ Manatees congregate at natural springs.
- ▶ Bald eagles start hatching around Christmas Day
- ▶ Listen for the cardinals' territorial singing.



The Florida Great barred owl

Saluting Our Interns

The Office of Sustainability wishes to thank interns **Kelli Thurson** and **Amanda Nolan** for their work. Ms. Thurson graduated from Florida State University after completing her Master of Science in Urban and Regional Planning. Ms. Nolan is completing her studies at Florida State University, also in the master's program in Urban and Regional Planning.



Kelli Thurson



Amanda Nolan

A Note from the Leon County Sustainability Team

We hope you have enjoyed this issue, and we send greetings for an enjoyable and green holiday season. If you are looking for ways to keep your good green habits going through the holidays, consider these ideas:

- ▶ Take advantage of quality time with loved ones to go outdoors together. Click [here](#) to search Leon County's parks, greenways, and campgrounds.
- ▶ Paper consumption and waste skyrockets during the holidays, so cut back on paper waste by sending digital greetings and by reusing other paper products as wrapping paper. Consider using comic strips, old calendars, maps, posters, and more.
- ▶ If you have the time and interest in crafting, turn your cereal boxes to gift boxes. Click [here](#) for how.
- ▶ You can find templates for folding cards and envelopes [here](#) or on the website pinterest.com, as well as on YouTube.
- ▶ Consider giving non-material gifts such as services.
- ▶ Make your list and check it twice to consolidate shopping trips if you go out, to reduce transportation.
- ▶ Favor local businesses to keep our homegrown economy strong.
- ▶ Consider switching to LED lights if you use holiday lights—they operate with 1/10 the energy of mini-bulbs and 100 times less than conventional ones.

Contact us at Sustainability@LeonCountyFl.gov. If you wish to be removed from our list, simply choose the "unsubscribe" tab at the bottom of the newsletter.

Best regards from Leon County's Sustainability Team,



Maggie Theriot
Director of Resource Stewardship



Kathryn Ziewitz
Sustainability Coordinator

Those who contemplate the beauty of the earth find reserves of strength that will endure as long as life lasts.

- Rachel Carson